

AMENDMENTS TO THE CLAIMS

1-7. (Cancelled)

8. (Currently Amended) A moving picture decoding method for decoding, on a picture-by-picture basis, a coded stream, wherein the coded stream includes comprising: (i) coded picture data for each picture included in the coded stream, ~~[[;]]~~ (ii) display order information for each picture included in the coded stream, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, ~~[[;]]~~ and (iii) a flag inserted into the coded stream so as to indicate a position among the coded picture data where the values of the display order information of the pictures in the coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one, and wherein the flag is ~~being~~ stored in the coded stream or in random access point information in a file system to convey the coded stream, the moving picture decoding method comprising:

an information extraction step of extracting the flag indicating a position among the coded picture data where the values of the display order information are non-sequential; and
a management step of managing a storage memory area for storing a decoded picture based on the flag,

wherein, when the flag is extracted in the information extraction step, a clip including unused pictures is searched, during the management step, for the decoded picture stored in the storage memory area, and a picture whose position is earliest in a display order among the unused pictures is determined as a picture to be removed.

~~wherein in the management step, clip information is given to the decoded picture stored in the storage memory area, said clip information being updated when the flag is extracted, and a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information.~~

9. (Cancelled)

10. (Cancelled)

11. (Currently Amended) The moving picture decoding method according to Claim 8, further comprising an invalid picture storage step of storing an invalid picture in the storage memory area when the values of the display order information are non-sequential,

wherein, in the management step, whether or not to store an invalid picture in the area is determined based on the flag and the display order information, and

wherein, in the invalid picture storage step, an invalid picture is stored in the storage memory area based on a result of the determination made in the management step.

12. (Cancelled)

13. (Currently Amended) A moving picture decoding apparatus for decoding, on a picture-by-picture basis, a coded stream, ~~wherein the coded stream includes comprising:~~ (i) coded picture data for each picture included in the coded stream₁[[;]] (ii) display order information for each picture included in the coded stream, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures₁[[;]] and (iii) a flag inserted into the coded stream so as to indicate a position among the coded picture data where the values of the display order information of the pictures in the coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one, and wherein the flag is being stored in the coded stream or in random access point information in a file system to convey the coded stream, the moving picture decoding apparatus comprising:

an information extraction unit operable to extract the flag indicating a position among the coded picture data where the values of the display order information of the pictures are non-sequential; and

a management unit operable to manage a storage memory area for storing a decoded picture based on the flag,

wherein, when the flag is extracted by the information extraction unit, the management unit searches a clip including unused pictures for the decoded picture stored in the storage memory area, and determines, as a picture to be removed, a picture whose position is earliest in a display order among the unused pictures.

~~wherein in the management unit, clip information is given to the decoded picture stored in the storage memory area, said clip information being updated when the flag is extracted, and a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information.~~

14. (Cancelled)

15. (Currently Amended) A non-transitory computer readable recording medium encoded with a computer program for decoding, on a picture-by-picture basis, a coded stream, wherein the coded stream includes comprising: (i) coded picture data for each picture included in the coded stream, [[;]] (ii) display order information for each picture included in the coded stream, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, [[;]] and (iii) a flag inserted into the coded stream so as to indicate a position among the coded picture data where the values of the display order information of the pictures in the coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one, wherein the flag is being stored in the coded stream or in random access point information in a file system to convey the coded stream, and wherein, when executed, the computer program causes causing a computer to perform a method comprising:~~execute at least:~~

an information extraction step of extracting the flag indicating a position among the coded picture data where the values of the display order information of the pictures are non-sequential; and

a management step of managing a storage memory area for storing a decoded picture based on the flag,

wherein, when the flag is extracted in the information extraction step, a clip including unused pictures is searched, during the management step, for the decoded picture stored in the storage memory area, and a picture whose position is earliest in a display order among the unused pictures is determined as a picture to be removed.

~~wherein in the management step, clip information is given to the decoded picture stored~~

~~in the storage memory area, said clip information being updated when the flag is extracted, and a picture whose position is earliest in a display order among the decoded pictures stored in the storage memory area is determined as a picture to be removed, based on the display order information and the clip information.~~

16. (Cancelled)

17. (Cancelled)

18. (Currently Amended) A moving picture coding method for coding an inputted coded moving picture signal on a picture-by-picture basis and generating a coded stream, wherein the inputted coded moving picture signal includes (i) coded picture data for each picture, and (ii) display order information for each picture, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, the moving picture coding method comprising:

a detecting step of detecting whether the values of the display order information for the pictures to be included in the generated coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one;

a flag information generation step of generating a flag indicating that the values of the display order information are non-sequential, when said detecting step detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequential; and

a coded stream generating step of (1) generating a coded stream ~~including: comprising:~~ (i) the coded picture data for each picture to be included in the generated coded stream; and (ii) the flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential, or (2) generating a coded stream ~~including: comprising:~~ (i) a predetermined coding unit and a further coding unit such that the predetermined coding unit ~~includes: comprises~~ a plurality of picture data of respective pictures to be included in the generated coded stream, including a first intra picture, and such that the further coding unit is located after the predetermined coding unit and ~~includes: comprises~~ picture data of a

picture whose display order is later than a display order of the first intra picture among the pictures included in the predetermined coding unit; and (ii) the flag [[is]] inserted into[[in]] the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential,

wherein, in the coded stream generating step, the flag is inserted between two pictures in the generated coded stream, said two pictures being non-sequential in display order.

19. (Currently Amended) The moving picture coding method according to Claim 18, wherein, in the coded stream generating step, the coded stream is generated (i) such that a display order of pictures in the predetermined coding unit is sequential, and (ii) such that the display order of the pictures in said predetermined coding unit is located earlier than a display order of pictures in a predetermined coding unit immediately following said predetermined coding unit.

20. (Currently Amended) A moving picture coding apparatus for coding an inputted coded moving picture signal on a picture-by-picture basis and generating a coded stream, wherein the inputted coded moving picture signal includes (i) coded picture data for each picture, and (ii) display order information for each picture, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, the moving picture coding apparatus comprising:

a detecting unit operable to detect whether the values of the display order information for the pictures to be included in the generated coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one;

a flag information generation unit operable to generate a flag indicating that the values of the display order information are non-sequential when said detecting unit detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequential; and

a coded stream generating unit operable to (1) generate a coded stream ~~including; comprising;~~ (i) the coded picture data for each picture to be included in the generated coded stream; and (ii) the flag inserted into the coded stream so as to indicate a position among

the coded picture data where the display order of the pictures is non-sequential, or (2) generating a coded stream ~~including: comprising:~~ (i) a predetermined coding unit and a further coding unit such that the predetermined coding unit ~~includescomprises~~ a plurality of picture data of respective pictures to be included in the generated coded stream, including a first intra picture, and such that the further coding unit is located after the predetermined coding unit and ~~includescomprises~~ picture data of a picture whose display order is later than a display order of the first intra picture among the pictures included in the predetermined coding unit; and (ii) the flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential,

wherein, in the coded stream generating unit, the flag is inserted between two pictures in the generated coded stream, said two pictures being non-sequential in display order.

21. (Currently Amended) A non-transitory computer readable recording medium encoded with a computer program for coding an inputted original coded moving picture signal on a picture-by-picture basis and generating a coded stream, wherein the inputted original coded moving picture signal includes (i) coded picture data for each picture, and (ii) display order information for each picture, where the display order information for each picture is a picture order count (POC) and has a value indicating the display order of the respective pictures, and wherein, when executed, the computer program causescausing a computer to perform a method comprising:execute at least:

a detecting step of detecting whether the values of the display order information for the pictures to be included in the generated coded stream are sequential or non-sequential, where being sequential is being incremental by one and being non-sequential is a state other than being incremental by one;

a flag information generation step of generating a flag indicating that the values of the display order information are non-sequential when said detecting step detects that the values of the display order information for the pictures to be included in the generated coded stream are non-sequential; and

a coded stream generating step of (1) generating a coded stream ~~including: comprising:~~ (i) the coded picture data for each picture to be included in the generated coded stream; and (ii) the flag inserted into the coded stream so as to indicate a position among the coded picture data

where the display order of the pictures is non-sequential, or (2) generating a coded stream ~~including: comprising:~~ (i) a predetermined coding unit and a further coding unit such that the predetermined coding unit ~~includescomprises~~ a plurality of picture data of respective pictures to be included in the generated coded stream, including a first intra picture, and such that the further coding unit is located after the predetermined coding unit and ~~includescomprises~~ picture data of a picture whose display order is later than a display order of the first intra picture among the pictures included in the predetermined coding unit; and (ii) the flag inserted into the coded stream so as to indicate a position among the coded picture data where the display order of the pictures is non-sequential,

wherein, in the coded stream generating step, the flag is inserted between two pictures in the generated coded stream, said two pictures being non-sequential in display order.

22. (Previously Presented) The moving picture coding method according to Claim 18, wherein the flag is stored in supplemental enhancement information (SEI) for storing additional information, the SEI being located between clips in the generated coded stream.